

Investigation of the situation of  
junior academics  
in the Faculty of Technical Chemistry  
at TU Wien

a cooperation of  
FemChem  
Faculty of Technical Chemistry  
Gender Competence



November 2020



## **Foreword**

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The creation of the advancement plan for women in the Faculty of Technical Chemistry at TU Wien has given rise to the development of the bottom-up initiative, FemChem (<http://femchem.chemie.tuwien.ac.at/>). FemChem enables networking for women in the faculty, constitutes a platform for the exchange of ideas, experiences and information, coordinates offers for continuing education and for academic discussion, and keeps in regular contact with faculty management.

Communication between 'juniors and seniors' has shown that women at the start of their academic career today continue to face general conditions and mindsets that were adversely experienced many years ago. This personal dismay and the knowledge gained in a workshop on the subject of 'Identity and Diversity' resulted in the idea of conducting an extensive study that would investigate in detail the situation of junior academics in the Faculty of Technical Chemistry. In association with FemChem, the Faculty of Technical Chemistry and the Gender Competence Service Department at TU Wien, the project was launched in 2019 and completed in October 2020.

There are three parts to the study:

The first part includes an analysis of gender distribution, by means of descriptive statistics, between the years of 2009 and 2018, conducted as part of a master's thesis entitled "Gender-specific representation in the Faculty of Technical Chemistry at TU Wien". The thesis was written and published by Verena Mrazky, MA at the Institute of Sociology at the University of Vienna, and supervised by Associate Professor Eva Flicker and Dr Angela Wroblewski. Verena Mrazky is employed at TU Wien in the office for the Working Group on equal opportunities. She previously worked at the Institute for Advanced Studies (IHS) in the University Research Service Department and in market and opinion research.

The second part details the work and career prospects of junior academics and includes focus group discussions and a subsequent online survey. This part of the project was developed by Dr Bettina Stadler (FORBA). Dr Stadler is a sociologist and, as well as being employed by FORBA, she also works in the Office for Gender Equality and Gender Studies

at Danube University Krems. Previous activities include working for Statistics Austria and at the Institute of Economic Sociology. She currently teaches quantitative methods of empirical social research at the University of Vienna.

The third part of the study, conducted by Dr Marita Haas, is concerned with interviews with those who have been promoted and, in an interactive qualitative study, details the reconstruction of the advancement processes. Marita Haas is a business consultant specialising in gender consulting. Having gained her doctorate in Economics, she has held various positions as well as conducted research at the University of Vienna, TU Wien and the University of Göttingen into gender and diversity in organisations. She takes a critical look at conventional women\*-only formats and advises organisations and NGOs on developing gender-sensitive processes and structures.

The people who needed to be assigned to the groups of young academics and those who have been promoted were gathered based on the organisational charts of the four institutes in the Faculty of Technical Chemistry and the reports in TISS (TU Wien Information System & Services). The group of young academics included employees of all genders within the faculty who have already completed their studies but still have no permanent position. The call for those who have advanced in their careers was made to employees perceived as having management or supervisory responsibilities (research group, research unit, institute), as well as people with a post-doctoral teaching qualification (habilitation) who are permanently employed at TU Wien.

The findings of the study can be accessed via the FemChem homepage. This publication is publicly available via RepositUM, the open access platform of TU Wien Library (<https://repositum.tuwien.at/>), (doi: 10.34726/281).

## **Gender-specific representation in the Faculty of Technical Chemistry at TU Wien**

Verena Mrazky

Women were first admitted to study at TU Wien more than 100 years ago. Since then, the proportion of women has increased, albeit very slowly. The academic career ladder, as viewed from the bottom up – in other words, from students to project assistants, academic employees, career positions and professors – shows a diminishing number of women climbing through the ranks. This is particularly striking in the Faculty of Technical Chemistry, where, in 2018, compared with other faculties at TU Wien with around one third of women, a relatively high proportion of women can be found in the student and academic populations, yet not a single female professor was appointed.

To pursue the trend of gender distribution, the following questions are investigated: What is the female representation amongst students and academic personnel in the Faculty of Technical Chemistry at TU Wien from 2009 to 2018? How does gender segregation play out through the academic career ladder? Descriptive statistics are used to analyse and interpret the horizontal and vertical representation of men and women amongst academic personnel from 2009 to 2018 and gender distribution amongst students by mode of study for the academic years 2013/14 to 2017/18 (data records used: aggregated data from the TU Wien data warehouse, TISS and unidata).

The university field of investigation here is conceptualised as a "gendered organisation" according to Joan Acker (1990). The hypothesis is that organisations subscribe to a gender-specific substructure, which may be reflected in a gender-specific distribution of income, positions and responsibilities. An analysis based on this theoretical concept aims to reveal gender bias in organisational structures.

## **Key findings**

**Decision-making positions** in the senior governing bodies at TU Wien (Rector's Office, University Council and Senate) are governed by the statutory requirement for a 50% quota of women, which is also fulfilled by the Rector's Office and the University Council in 2018. However, the proportion of women in the Senate is only 38%. In the Faculty of Technical Chemistry, the finding for 2018 proves sobering: the position of Dean is held by a man, as is the position of Dean of Studies and all institutes are headed solely by men. The proportion of women in research unit management is 6%, and 21% in research group management. In terms of gender parity, the occupation of management roles is therefore way off target.

Amongst **students** from 2013/14 to 2017/18, the proportion of female undergraduates in Technical Chemistry increased from 34% to 41%, whereas the female proportion of masters' and doctoral students was stagnant (42% and 38%). In relation to other faculties at TU Wien, this is a high proportion of women. Amongst graduates, the proportion of female bachelor degree students fluctuates between 33% and 41%, and masters' students between 36% and 44%. However, the proportion of female doctoral graduates has more than halved (from 64% to 27%). Whether this is a one-off or a trend needs to be monitored. The relatively high proportion of women studying for a master's can at least be seen as positive. This shows that there is a large pool of potential junior academics. However, significantly more women than men are also withdrawing from their masters' programme (an increase from 50% to 58%). The proportion of women withdrawing from a bachelor programme fluctuates between 35% and 41%, and fell from 50% to 43% for doctoral programmes. In absolute figures, it is mostly women who withdraw from their bachelor programme.

Only a slight shift in the proportion of women amongst **academic personnel** is noted in the period under investigation from 2009 to 2018. The proportion of women amongst academic personnel (excluding teaching staff) fluctuates between 26% and 30%, which is a little above the average for the whole of TU Wien (2018: 23%). However, a significant increase in the proportion of women amongst teaching staff should be noted: from 26% to 47%. The downside of this increase, however, is that it concerns those positions that

are often limited to semester time and thus correlated with less prestige, less research and fewer publications.

Taking a differentiated view illustrates that, in the 10-year period under investigation, there is a significant increase in the female proportion of student employees (from 31% to 50%) and a small increase amongst female academic employees (from 22% to 27%). However, the proportion of female project assistants and women in career positions is falling (from 38% to 27% and 50% to 37% respectively). Despite the decline in the figure for career positions, the TU Wien average of 20% in 2018 is a high proportion of women, which shows that there is relatively high potential here. It is all the more sobering to see that no women whatsoever were appointed in the entire period under investigation, which, with a proportion of around a third of women in academic positions, is difficult to explain. By comparison: in 2018, the average proportion of women across the whole of TU Wien stands at 13% for professors and 23% for academic personnel.

It is particularly striking to see the gender gap regarding temporary positions, which increased to the disadvantage of women in the period under investigation: the female proportion fell from 38% to 27%. However, recruitment based on the global budget shows an increase in the proportion of women from 20% to 31%. Personnel procedures differ in that the Working Group on equal opportunities is more heavily involved as a supervisory body for global recruitment, which may provide an insight into potential reasons. Part-time positions have also significantly increased, involving more women than men (74% vs. 57%). This development illustrates increasing insecurity in the academic profession, which is particularly at the expense of women.

## **Conclusion**

In view of the discrepancy of the – relatively speaking – high female proportion of students and the simultaneous decrease of the proportion of women the higher up the career ladder one climbs, the recommendation is therefore to reflect on previous recruitment practices and advancement of juniors. It is also recommended to step up anti-discrimination measures (including establishing anti-bias workshops), instigate the advancement of women (including advertising for professors and career positions solely for women) and, in particular, to provide additional resources to academics in the Faculty of Technical Chemistry who are established in the bottom-up initiative, FemChem, and to

involve them more in organisational processes, which has the potential to change the culture.



## **Work and career prospects of junior academics in the Faculty of Technical Chemistry at TU Wien**

Bettina Stadler

In 2019, FORBA (Working Life Research Centre) was commissioned to consult junior academics in the Faculty of Technical Chemistry at TU Wien about their work situation and career prospects. Differences between male and female junior academics were central to this consultation. The target group of the investigation was established as being students from pre-doctoral to junior academic level, recruited through TU Wien's global budget or through projects at TU Wien.

In both cases, focus groups were held in November 2019 to prepare for the consultation. These comprised male and female junior academics in the Faculty of Technical Chemistry at TU Wien. Discussion about the work situation was very open, thus enabling key themes for the consultation to be gathered.<sup>1</sup> Previous studies on the situation of junior academics in universities were also consulted. On this basis, a new questionnaire was developed and tested in several phases. The questionnaire was compiled in German and translated into English.

In April 2020, a total of 323 junior academics in the Faculty of Technical Chemistry at TU Wien were invited to respond to an online questionnaire. The participants' e-mail addresses were provided by the project owner. A total of 105 questionnaires were completed in full. This corresponds to a 33% uptake in the target group. When selecting the survey tool, conducting the survey and analysing findings, there was full compliance with data protection regulations.

The analysis of the responses to the survey from junior academics in the Faculty of Technical Chemistry at TU Wien provides a differentiated insight into the perception and experiences of junior employees in the faculty.

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<sup>1</sup> At this point, I would once again like to sincerely thank participants in this discussion for their willingness and enthusiastic discussion.

This analysis provides an overview of the key themes of the report.

In total, just under one third of female and just over two thirds of male junior academics responded to the questionnaire. This is congruent with the current numbers of junior academics in the Faculty of Technical Chemistry<sup>2</sup>.

Overall, satisfaction with the work situation is fairly high; four out of five junior academics are very or somewhat satisfied. However, large discrepancies are apparent between men and women who responded as "very satisfied": 34% of men, but only 16% of women, placed themselves in this category. Satisfaction with the various aspects of the work situation was then addressed in detail. Only when it came to social standing did women appear to be more frequently "very satisfied" than men; in all other aspects, women were slightly less satisfied (e.g. volume of work assignments) or significantly less satisfied than men. There were particularly big differences regarding relations with line managers, work/life balance and time for career development.

Apart from the distribution of tasks between men and women, women see the allocation of tasks and utilisation of results in a worse light than men. This particularly relates to allocation regarding the utilisation of results and transparency regarding the allocation. In this respect, this finding is interesting, as women do not perceive any unequal distribution between genders, but overall, see the situation in a significantly worse light than men.

Some questions were aimed at junior academics at the thesis stage. Clear differences are also apparent here between men and women, in particular as regards assistance with obtaining third-party grants and responsiveness to questions. Only 18% of women rate feedback on their work as "very good", whereas the figure is 44% for men; 55% of women rate feedback as "good", the figure for men is 20%.

Men also report more frequently than women that they feel supported in their working environment. Bigger differences are particularly apparent when it comes to support from professors.

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<sup>2</sup> Gender Competence Service Department. 2019. "Women and men at TU Wien: Facts, figures, analyses VI". Vienna: TU Wien.

Women also extend their knowledge beyond their specialist education far more frequently by pursuing courses and seminars that are not subject-specific. This applies to courses at TU Wien as well as those of third-party providers. Thus, 39% of women have participated in continuing education at TU Wien that is not subject-specific, compared with 27% of men.

An important final section of the survey was dedicated to career prospects and aspirations. Approximately one third of respondents are pursuing a career in the Faculty of Technical Chemistry, the figure of 42% of women is significantly more than 31% of men. The remaining respondents are split between wanting to pursue a career in the private sector (47%), at other universities (11%) or to take a completely different direction (10%).

The desire for long-term career prospects and employment security is widely rated as "very important" for a career move. Men more often specify the former desire, and women the latter. The desire for a good work-life balance and the ability to work autonomously are also very important. Women rate both of these requirements as "very important" more often than men. Other motivations, such as living with a partner or working in research, are also more frequently specified by women than men.

Potential family planning is very important for career choices for a quarter (26%) of respondents, for another third (33%) this consideration is quite important. Women more often specify this issue as "very important", men more often specify it as "quite important". Subsequently, only 7% of women, compared with 31% of men, consider the compatibility of a career within the faculty with starting a family as "very good". There is barely any difference between men and women specifying this as "quite good".

Final questions focused on awareness of the numerous services and packages at TU Wien. Around half of men and women are aware of the TU Kiwi Kindergarten. Respondents are rather more familiar with Daughters' day, Bring Your Kids Day and Kiwi TU Kids Day Care. There is little or hardly any awareness of other services with which colleagues are likely to come into contact only if they have a specific need for support or advice.

As this report clearly illustrates, women's desire for a career in the Faculty of Technical Chemistry more often exceeds that of men. However, in many fields, particularly when it comes to personal advancement, they receive less support than their male colleagues.

TU Wien as a whole and the Faculty of Technical Chemistry are implementing a number of measures to promote gender equality; this is illustrated alone by the list of support provisions for combining working life and family life presented in the survey. The completed study must also be seen in this context. The study findings presented here may stimulate internal discussion and contribute to making further progress along this path.

## **Junior academics in Chemistry – survey of those who have been promoted**

Marita Haas

**Aim:** To illustrate approaches that can contribute to enhancing the faculty as regards equal opportunities for participation for women\* and men\*.

**Theoretical framework:** The theory of the *gendered organisation* (incl. Acker 1990; 2011; Benschop, 2009; Poggio 2006) is used as the reference framework, as this enables the examination of existing processes and structures of organisations. The reconstruction of processes (*How are junior academics selected and promoted?*) makes implicitly embedded (gender) mechanisms visible and shows where processes can be amended to make egalitarian decisions. As decision-makers for the selection and development of juniors, managers are central, as they shape the associated structures and processes. They are therefore the focus of the study.

**Method:** To survey the structural situation, a multi-perspective approach was chosen, which serves equally as a format for analysis and reflection. The following steps were completed in the course of the project:

### **Step 1: Analysis of the initial situation & reconstruction of selection and advancement processes based on 8 in-depth interviews (90 minutes) with selected Group Leaders (heterogeneous group, max. variation)**

- Qualitative survey of Group Leaders on the advancement of junior academics (expert interviews with the following core questions/elements: Assignment of qualification work; application procedure process (*Who is considered for a position by whom and/or how is a proposal made?; How does the application process proceed with regard to the various levels of hierarchy?*); support and advancement process for new academic colleagues (*How are agendas within the group allocated? Who is recommended, and by whom, for representations, conferences, etc.?*); experience; requirements & wishes of Group Leaders in personnel selection, etc.)
- Reconstruction of the most common support processes and patterns

**Step 2: Reflection & raising awareness through 2-hour interactive format with all Group Leaders**

- Visualisation and process presentation: Which processes could be reconstructed? Where are there similar patterns and implicit rules?
- Joint identification of opportunities & pitfalls; link with relevant theoretical knowledge

**Step 3: Qualitative online questionnaire to analyse current and desired advancement and support mechanisms; evaluation of best practices of other organisations (1-month period, n=28)**

- Reflection of gender issues in interacting with junior academics (status quo)
- Survey of wishes and requirements of Group Leaders to engage in better advancement for juniors
- Analysis of the willingness to modify current recruitment and funding/support instruments
- Qualitative questionnaire design and evaluation based on reconstructive procedures

**Step 4: Development of recommendations for action**

- Development of specific recommendations for action based on the processes, structures and mechanisms ascertained. Link with theoretical knowledge from gender and organisation research
- Derivation of measures: what do managers in Technical Chemistry need to make good personnel decisions and to be able to offer equal advancement structures?

Key findings from the project

The fundamental selection of junior academics begins very early, as the basis for collaboration is often laid in an internship and as part of bachelor/masters' studies. The lower the level of qualification, the less often there is a specific advertisement or specific

selection procedure. Individual service units report essentially very few, particularly female applicants interested in an academic career. The recruitment practice for junior academics is very individual (group-related) and based on previously observed performance (publications, joint project experience).

An informal and unstructured selection favours "choosing acquaintances" following the "perfect match" concept and is thus orientated towards the conventional image of an ideal academic, who continues to be conceived as male, free from other (including family) obligations. People who think differently, live differently and communicate differently tend to be more easily excluded or not consciously included, which has a negative impact on the selection and recruitment of women in a male-dominated environment. Performance-based (vs. potential-based) selection is also an advantage for those who have already managed to become established, and a disadvantage for those who are seeking to become established (those changing career).

Group Leaders questioned also stated feeling highly aware of the problem, often seeking women specifically or actively supporting them through recommendations. At the same time, the questioning formats clearly showed high expectations of performance and commitment, as one Group Leader stated, "being an academic is not a part-time job". It is well-known that parenting is one of the greatest hurdles facing female junior academics; nevertheless, mobility, for example, continues to be a major issue and the matters of childcare and leave are largely located as a problem relating to combining working life and family life and thus in the individual sphere. However, Group Leaders want systems with fairer parental leave.

Group-related advancement is otherwise based mainly on previously acquired experience and individually negotiated solutions and is largely orientated to the existing team. For people who are already employees, medium- to long-term projects are sought, with Group Leaders finding the financial situation at the University (including repeated fixed-term contract rule) severely limiting. The seniority principle arising here also supports those people who have been employed for longer and/or continuously in academia. However, gender or gender (in)equality in working groups is largely discussed in connection with project submissions and is not on the agenda of the regular meetings held. The standard of knowledge on the issue of gender equality thus differs widely.

Almost 80% of Group Leaders specify that they have never attended any training on the subject of gender.

All things considered, the hypothesis can be developed that, as a result of a lack of structural provisions and high individual decision-making power for each working group, from a gender perspective, "sub optimal" personnel decisions are made. This repeatedly investigated "vicious circle" means that decision-makers with limited gender expertise and/or opportunity to reflect on gender unconsciously contribute to the situation that women remain in lower positions, which has an impact on their publication opportunities and achievements, and vice versa, whereby, on account of their lower academic input, they are (or may be) less highly rated than their male colleagues (Van den Besselaar & Sandström, 2017).

Recommendations for further work:

- Establish and communicate a clear commitment to gender equality at faculty level as a key principle for current and future advancement of junior academics (-> "Get Gender on the Agenda").
- Define and pursue specific aims and target figures; establish reflection on the subject of gender at institute level and make it a quarterly discussion point to ensure focus remains on the topic of gender.
- When recruiting, focus on criteria and quality control: specify evaluation criteria; establish recruiting teams and specify multi-stage selection processes, even at low qualification levels, to prevent assessment biases.
- Further establish best practice doctoral programmes to pursue excellence junior advancement and to decouple junior academics from promotion by the direct Group Leader. Embed gender parity as a fundamental principle for doctoral colleagues and avoid vulnerable positions.
- Practice gender-inclusive management. As Group Leader, show a clear commitment to the issue of gender equality in every situation and by, for example, assigning responsibility to junior academics, ensure equal opportunities for support and time; use gender- and diversity-sensitive language and appreciate different concepts of living.